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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,168	11/20/2003	Peter F. Symosck	H0003798 (1100.1204101)	9337

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EXAMINER

GEBRESILASSIE, KIBROM K

ART UNIT	PAPER NUMBER
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2128

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/718,168

Applicant(s)

SYMOSEK ET AL.

Examiner

Kibrom K. Gebresilassie

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9 and 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/22/2004 and 08/05/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to amended application filed on December 01, 2006.
2. Claims 7-9, and 23-32 are pending.
3. Claims 1-4 are canceled.
4. Claims 5-6, and 10-22 are withdrawn.
5. Claims 23-32 are added.
6. Applicants are elected Claims 7-9 in response to the Office Action mailed on November 1, 2006. Accordingly, the election made is considered.

Priority

7. This application claims priority under 35 U.S.C. 119(e) to provisional application No. 60/428,205, filed on November 20, 2002. Accordingly, the priority date is considered.

Information Disclosure Statement

8. The information disclosure statement (IDS) submitted on 03/22/2004 and 08/05/2004 is being considered.

Specification

9. The disclosure is objected to because of the following informalities: Page 6 lines 16-17, "cloud slab C1" and "cloud slab C2" should be read as "cloud slab C1 91" and "cloud slab C2 92".

Appropriate correction is required.

Drawings

10. The drawings were received on 04/19/2004. These drawings are replacing the informal drawings submitted on 11/20/2003.

11. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 2 element 22. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

12. Claim 30 is objected to because of the following informalities: the abbreviation " LN_2 " should be specified what stands for. Appropriate correction is required.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claim 7-9, and 23-32 are rejected under 35 U.S.C. 101 because the components recited in Claim 7 such as chemical agent detection environment simulation device, user interface, background measurement environment interferogram source, a numerical computing tool and atmospheric transmittance and radiance model are just **software per se** (See: specification page 15 lines 1-4). Claim 7 is a system claim, and therefore the claimed invention should have associated with a "physical component" or "physical device" in order to realize its functionality.

MPEP 2106 states as follows:

"computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions."

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. Claims 7-9, and 23-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,266,428 issued to Flanigan et al., in view of US patent No. 5,982,486 issued to Wang et al.

Claims 1-4. (Canceled)

Claims 5-6. (Withdrawn)

Claim 7. (Original)

Flanigan discloses a simulator system comprising:

a chemical agent detection environment simulation (**See: Col. 3 lines 12-15; Fig. 20**);

a user interface (such as ***display screen or other visual output device or other input device***; See: Col. 12 lines 15-18; Fig. 20 blocks 19, 21, and/or 23) connected to the chemical agent detection environment simulation device (such as ***...signal processor 17...***; See: Col. 12 lines 50-51; Fig. 20);

a numerical computing tool (such as ***mathematica program or other suitable software***; See: Col. 7 lines 2-5) connected to the chemical an agent detection environment simulation device; and

an atmospheric transmittance and radiance model (such as...***background and atmospheric transmittance ...***;See: Col. 7 lines 2-5) connected to the chemical agent detection environmental simulation device.

Flanigan fails to disclose a background measurement environment interferogram source.

Wang discloses a background measurement environment interferogram source (such as ***FTIR spectrometer***; See: Col. 4 lines 40-44; Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Wang et al with Flanigan et al because both references are clearly concerned with chemical agent detection. The motivation for doing so would have been convenient to a background measurement environment interferogram source such as FTIR spectrometer, as taught by Wang et al, for system of Flanigan et al to remotely detecting and discriminating hazardous clouds in a field of view (See: Flanigan et al, Col. 3 lines 40-43).

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Claim 8. (Original)

Flanigan discloses the system of claim 7, further comprising an ancillary information source (such as ***ambient temperature blackbody***; See: Col. 10 lines 49-51) connected to the chemical agent detection environment simulation device.

Claim 9. (Original)

Flanigan discloses the system of claim 8, wherein: files may be input to the atmospheric transmittance and radiance model from the chemical agent detection simulation device environment (See: col. 7 lines 2-5); and

atmospheric model information may be input to the chemical agent detection environment simulation device from atmospheric transmittance and the radiance model (See: Col. 12 lines 60-67).

Claims 10-22. (Withdrawn)

Claim 23. (New)

Wang discloses the system of claim 7, wherein the chemical agent detection environment simulation device includes simulated sensor output (such as ...***the saturation condition detected by sensor (i.e. spectrometer) is simulated using 1000ppm-m...(See: Col. 11 lines 45-52) ...then a detection report is given, which is interpreted as "simulated sensor output"*** See: Col. 13 lines 40-43; Table 4).

Claim 24. (New)

Flanigan discloses the system of claim 23, wherein the numerical computing tool is configured to test the sensor output with one or more algorithms (See: Col. 7 lines 2-7).

Claim 25. (New)

Flanigan discloses the system of claim 7, further comprising a cloud radiance and transmittance module (such as ***background and atmospheric transmittance*** ...; See: Col. 7 lines 2-5).

Claim 26. (New)

Flanigan discloses the system of claim 7, numerical computing tool is a Matlab® module (such as ***mathematica program or other suitable software***; See: Col. 7 lines 2-5).

Claim 27. (New)

Flanigan discloses the system of claim 7, wherein the atmospheric transmittance and radiance module is a MODTRAN module (such as ***MODTRAN***; See: Col. 7 lines 2-5).

Claim 28. (New)

Flanigan discloses the system of claim 7, wherein the chemical agent detection environment includes: an input stage (such as ***...spectral data...***; See: Col. 13 lines 6-8); a preparation stage (such as ***...normalization***; See: Fig 13A and Fig. 13B); a calibration stage (See: Col. 10 lines 49-51); and a simulation stage (such as ***...signal-to-noise ratio (SNR)...***; See: Col. 7 lines 15-17); and wherein the simulation stage comprises:

a background spectrum (such as ***...background spectrum...***; See: Col. 7 lines 2-3); an atmospheric model (such as ***...atmospheric model...***; See: col. 7 lines 7-10);

a cloud model (such as ***hazardous clouds***); and a simulated spectrum builder (such as...***visual output device***; See: Col. 12 lines 50-53; Fig. 20 Block 21).

Claim 29. (New)

Flanigan discloses the system of claim 28 wherein the calibration stage comprises: computing an ambient blackbody spectrum (**See: Col. 10 lines 49-51**); computing a theoretical ambient blackbody spectrum (**See: Col. 10 lines 49-51**); and computing a calibrated background spectrum (**See: Col. 7 lines 2-3**).

Claim 30. (New)

Wang discloses the system of claim 29, wherein the calibration stage is configured to compute an LN2 reference spectrum (**See: Col. 10 lines 36-44**).

Claim 31. (New)

Flanigan discloses the system of claim 7, further comprising a sensor response removal module (such as ***detector array 15...***; See: Col. 12 lines 40-41; Fig. 20 block 15).

Claim 32. (New)

Flanigan discloses the system of claim 31, further comprising a field data source and a sensor response source each connected to the sensor response removal module (such as ...***detector array 15 using at least two detectors....***See: Col. 12 lines 40-45).

Conclusion

17. Claims 7-9, and 23-32 are rejected.
18. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.
19. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Communications

20. Any inquiring concerning this communication or earlier communication from the examiner should be directed to Kibrom K. Gebresilassie whose telephone number is (571) 272-8571. The examiner can normally be reached on Monday-Friday, 8:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Kamini Shah can be reached at (571) 272-2279. The official fax number is (571) 273-8300. Any inquiring of a general nature relating to the status of this

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application should be directed to the group receptionist whose telephone number is
(571) 272-3700.

Kibrom K Gebresilassie
AU 2128



KAMINI SHAH
SUPERVISORY PATENT EXAMINER